TRANSLATION

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION	See Form PCT/IPEA/416
PCG-9002WO		
International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/JP2004/013183	03.09.2004	04.09.2003

International Patent Classification (IPC) or national classification and IPC

A61K39/395;A61P35/00, G01N33/574,33/543,C07K16/18

Applicant

ABURATANI, Hiroyuki

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
   a. ☐ *(sent to the applicant and to the International Bureau)* a total of _____ sheets, as follows:
      ☐ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s))
      _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items:
   - ☒ Box No. I Basis of the report
   - ☐ Box No. II Priority
   - ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - ☐ Box No. IV Lack of unity of invention
   - ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - ☐ Box No. VI Certain documents cited
   - ☐ Box No. VII Certain defects in the international application
   - ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/JP2004/013183

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

☐ international search (Rule 12.3 and 23.1(b))

☐ publication of the international application (Rule 12.4)

☐ international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☒ the international application as originally filed/furnished

☐ the description:

pages _____ as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the claims:

nos. _____ as originally filed/furnished

nos.* _____ as amended (together with any statement) under Article 19

nos.* _____ received by this Authority on _____

nos.* _____ received by this Authority on _____

☐ the drawings:

sheets _____ as originally filed/furnished

sheets* _____ received by this Authority on _____

sheets* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing *(specify)*: _____

☐ any table(s) related to sequence listing *(specify)*: _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing *(specify)*: _____

☐ any table(s) related to sequence listing *(specify)*: _____

* *If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/JP2004/013183

Box No. III **Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application

☒ claims Nos. 12-13

because:

☒ the said international application, or the said claims Nos. 12-13 relate to the following subject matter which does not require an international preliminary examination (*specify*):

The inventions set forth in claims 12 to 13 correspond either to a method for the treatment of the human body by means of therapy or to a diagnostic method for the human body (PCT Rule 67.1 (iv)).

☐ the description, claims or drawings *(indicate particular elements below)* or said claims Nos. _____ are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. _____ are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for said claims Nos. 12-13

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form
- ☐ has not been furnished
- ☐ does not comply with the standard

the computer readable form
- ☐ has not been furnished
- ☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☐ See Supplemental Box for further details.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/JP2004/013183

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-11	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-11	NO
Industrial applicability (IA)	Claims	1-11	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

The following documents are cited in the international search report.

Document 1: WO 03/000883 A1 (Chugai Pharmaceutical Co., Ltd.)

Document 2: Database Medline on STN, T. ROSKAMS et al., "Heparan sulphate proteoglycan expression in human primary liver tumors," Journal of Pathology, 1998, Vol. 185, No. 3, pages 290 to 297, abstract, Medline Accession No. 1998444445

Claims 1 to 6

Document 1 indicates that anti-glypican 3 antibodies exhibit an antibody dependent cell-mediated cytotoxicity activity or a compliment dependent cytotoxicity activity, and that anti-glypican 3 antibodies can be used as cancer cell proliferation inhibitors. Therein, document 1 further indicates that the cells are hepatic cancer cells, that the antibodies are monoclonal antibodies, and that said antibodies are also humanized antibodies or chimeric antibodies.

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The inventions that are set forth in the abovementioned claims involve bile duct cancer cells, and thus differ from the invention that is disclosed in document 1, which does not make any specific disclosures in relation to the feature in question. However, document 2 indicates that hepatic cancers, including both hepatocellular carcinomas as well as cholangiocarcinomas, have been found to express heparan sulfate proteoglycans such as glypican, and thus it would have been obvious to a person skilled in the art of the technical field in question to select bile duct cancer cells as the hepatic cancer cells and to use anti-glypican 3 antibodies in order to treat said cancer when implementing the invention that is disclosed in document 1.

In addition, the effects that result therefrom cannot be considered to be significant.

Claims 7 to 11

Document 1 suggests that it is possible to use glypican 3 as a marker for hepatocellular carcinomas (in particular, refer to page 2), while document 2 indicates that both hepatocellular carcinomas and cholangiocarcinomas include glypican and promote the expression of heparan sulfate proteoglycans. Such being the case, it would have been obvious to a person skilled in the art of the technical field in question to employ anti-glypican 3 antibodies in order to diagnose bile duct cancer.

In addition, the effects that result therefrom cannot be considered to be significant.

As a result, the inventions that are set forth in claims 1 to 11 are novel in relation to documents 1 and

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

2, but do not involve an inventive step in the light of the documents in question.